

THEORETICAL AND PRACTICAL ASPECTS OF THE AUDITOR'S RISK OF THE ASSESSMENT OF THE GOING CONCERN: CASE OF LATVIA

Irina Voronova, Janis Meziels, Konstantins Didenko
Riga Technical University, Riga, Latvia

Abstract

This research considers information related to the study of the assessment of the going concern opinion in deferent countries in theoretical and practical aspects. However, these researches were conducted mainly on the example of big enterprises. In this article the authors determine the existence of four popular accounting-based measures, Altman's (1968) Z-score, Hopwood (1994), Taffler's Z-score model (1984) and Zmijevski's (1984) model, which enable to efficiently determine the probability of insolvency/bankruptcy. By employing manually collected data for the selection of small and medium sized enterprises we consider the empirical link between Altman Z- score and auditors' reporting decision in Latvia. We hypothesize, that it is possible to apply risk classes of the assessment of the going concern by Antony Young un Yi Wang for the audited enterprises of Latvia. Our empirical results are consistent with this expectation.

Key words: Auditing standard, going concern, multi-risk level model, bankruptcy prediction models.

JEL: M42, G32, G33.

Introduction

In the conditions of long-term period of economic uncertainty the auditors must be especially cautions in assessing the suggestions about the going concern. The work is devoted to the study of existing practice of the assessment of the going concern in compliance with international audit standards. The Green Book of the European committee "Audit policy: Lessons from the Crisis" [2] shows that so far audit has been mainly based on historical information. The research points out that it is important to what extent auditors must evaluate the information presented by the company about the future and taking into account the preferential access to the key company information auditors themselves must get convinced in the economic and financial prospects of the company. This will affect the assessment of auditor in the context of the going concern while considering the policy of audit it is pointed out that simply mentioning the problem of getting problematic points in financial statements would be the best signal for the clients about wrongful issues. Models of the predicting bankruptcy may be used by the auditors to help them in establishing subjective assessment of the allowance of the going concern. The given models may be used by auditors to assess risk at the beginning of the audit and determine the necessary auditing procedures as an analytical device to negotiate the problems with clients, develop recommendations for changing financial accounts and as a potential protection from legal risk. The aim of the research is to check the availability of the link among the models of predicting insolvency/bankruptcy and the going concern evaluation as well as the possibility of using 5 risk classes each of which is connected to the concessions

about the going concern, developed by Antony Young un Yi Wang [31].

Prior Literature and Theory development

Most studies related to the assessment of the going concern are focused on relatively big companies. Nevertheless the size of the bankrupt companies in such country as Sweden and the Baltic states is considerable different from a country as the USA. The previous research works are often attribute the principle of audit about the allowance of the going concern to the company bankruptcy.

Studying the problems related to the assessment of following the going concern the authors conducted the review of the methods used for this purpose. The bibliometric analysis conducted by the authors enabled to come to the conclusion about the existing two trends in such researches.

The first trend related to the research about the establishment of the link between of the auditor's judgement about the going concern before bankruptcy with different factors characterising the audited enterprise (financial and corporate institutions), auditors - client relationship and other environmental factors. The given trend is usually represented by binary logistic models or continuous measure (probability) of presenting judgement about the going concern depending on the financial state of the audited enterprise. In the latter case the researched level is considered as the level of the auditor's judgement (e.g. Carey&Simnett 2006; De-Fond et al. 2002; Ye et al. 2011) [8, 6, 30].

The given trend, as a rule relies on the data about the results of the audited enterprises listed on the stock exchange. The researches cover the enterprises of the following countries: USA, Canada,

Japan, Malaysia, Taiwan, Iran, the Netherlands, Germany and other countries.

The second trend related to the assessment of following the principle of the going concern is based on the research of the methods and making a complex auditors judgement. This trend was mostly spread in Russia and as a rule does not rely on the data of the enterprises listed on the stock exchange and is considered as a criterion how to improve the auditors' work.

The authors lay emphasis on the researches about the establishment of the link between the credibility of the auditors' judgement about the going concern before bankruptcy and different factors. The studies of this trend consist of the researches by Abbott, L. et al. [1], Shahhahani, A. M. [7], Geiger M. A. & Rama D. V. [11], Kaplan, S. E. & Williams D. D. [16], Foroghi, D., Vanstraelen, A. [29] et al. The research of the connection of the factors is based on the application of the method of binary logistical regression (see Table 1).

Table 1. Overview of selected going concern binominal models

The authors of the models (Characteristic of the object of research)	Number of hypotheses	Characteristic of the factors of the models					
		Total	Group			2	3
			1	including (1)*			
1. Belloty, X., Uang, J.-J., Citron, D., Taffler, R. (non-financial firms with an audit report going-concern opinion fully listed on the London Stock Exchange or trading on the ISM)	2	13	10	+; Taffler (1984) U.K. based Z score model		1	2
2. Mironitic, M., Robu, J.-B., Robu, M.-A. (Companies quoted in the Bucharest Stock Exchange)	3	11	11	-		-	-
3. Lawrence, J. A., Parker, S., Peters, G. F.	1	13	9	+; probability of bankruptcy from Hopwood et al.'s (1994) model		0	4
4. Geiger, M.A., Rama, D.V. (1752 companies)	3	7	5	+; Zmijewski's (1984) model		1	1
5. Jiang, L., Radich, R., Zhao, S. (USA un Australia)	2	10	9	-		0	1
6. Kaplan, S. E., Williams, D. D. (non-finance, non-utility, industry firms listed on the NYSE, AMEX/NASDAQ)	1	13	10	+; Zmijevski's (1984) model		0	3
7. Foroghi, D., Shahshahani, A. M. (54 companies listed in Tehran Stock Exchange)	-	7	5	+; Pourheydari & Koopaeehaji's (2010) model		1	1
8. Hasnah, H. Bambang, H., Mahfooz, A., Ishak, I. (Malaysia)	5	3	7	+; Altman (1968) Z score		-	2
9. DeFond, M.L., Francis, J. R, Hu, X. (USA)	1	19	8	+; Reynolds & Francis (2000) formula and converted into probabilities		1	10
10. Trønnes, P. C., Carson, E., Simnett, R. (11,798 financially distressed firms from the United States, the United Kingdom and Australia)	3	16	9	+; Zmijevski's (1984) model		4	2
11. Ratzinger, N. (Germany)	2	14	1	-		1	12
12. Sormunen, N., Jeppesen, K. K., Sungren, S., Svanström T. (Swedish, Norwegian, Finnish and Danish companies)	1	10	5	-		0	5
13. Basioudis, I. G., Geiger, M. A. Papanastasiou, V. (643 publicly-listed companies on the London Stock Exchange)	2	11	7	+; probability of bankruptcy from Hopwood et al.'s (1994) model		0	4
14. Kausar, A., Taffler, R. J. (US, UK 950 non-finance, non-utility industry firms traded on the NYSE, AMEX or NASDAQ)	2	15	10	+ ; Altman (1968) for US firms, and Taffler (1984) for UK firms		1	4
15. Senteney, D. L., Chen, Y., Gupta, A.	5	7	6	-		-	1

(1) indicators characterising the probability of financial difficulties/bankruptcies; '+' – assessment included; '-' – assessment not included. Compiled by the authors by using [4, 21, 20, 11, 15, 17, 10, 18, 13, 9, 28, 24, 26, 5, 19, 25].

Financial Indicators

The number of factors in the equation ranges from 3 to 19. The factors included into the equation may be combined into three groups – financial (1), corporate management (2) and other (e.g. charac-

terising the auditors' company, type of evidence, disclosure) (3) indicators. Out of 15 analysed models in 9 cases there as a factor affecting the auditor's opinion is included an assessment of financial insolvency/bankruptcy of the audited enterprise. As

modes of the assessment of probable insolvency are used the models of discriminant Altman's (1968) [3], logit models Zmijevski's (1984) [32], probability of bankruptcy from Hopwood et al.'s (1994) [14] model, and little known models - Reynolds & Francis (2000) formula and converted into probabilities and Pourheydari & Koopaehaji's (2010) model (Iran) [23].

The models of insolvency/bankruptcy assessment considered in the present research use 18 financial indicators to calculate which of these are applied: 18 unrepeated balance item, profit and loss account and cash flow. The leaders in the fre-

quency of usage for calculating basic ratio analysis are: total assets, current liabilities, sales, current assets and profit before taxes (PBT) (see Table 2). To draw up binominal models of auditors' judgement about the going concerns of Latvian enterprises it is recommended to use those insolvency/bankruptcy models which underwent testing or were developed for the conditions of Latvia. The developed models for the conditionings of Latvia were executed by R. Shorin & I. Voronova (1998), Z. Muceniece & N. Lace. (2011), I. Genriha, G. Petere & I. Voronova (2011) [33, 22, 12].

Table 2. The indicators used in the insolvency /bankruptcy models included into binominal models of auditor's judgements about the going concern

	Models					Models			
	1	2	3	4		1	2	3	4
Working capita l/ Total assets	x				Cash / Total assets		x		
Retained earning/Total assets	x				Long term debt /Total assets		x		
Earning before interest and taxes /Total assets	x				Natural log of sales		x		
Market value of equity/Book value of total liabilities	x				Profit before tax/Current liabilities			x	
Sales / Total assets	x				Current liabilities/Total assets			x	
Net income / Total assets		x			(Quick assets-current liabilities)/ /Daily operating expenses with the denominator proxied by (sales- PBT- depreciation)/365			x	
Current assets / Sales		x			Total liabilities / Total assets				x
Current assets / Current liabilities		x			Net income /Total assets				x
Current assets /Total assets		x			Current assets /Current liabilities			x	x

Notation: 1 - E. Altman Z model (1968); 2 - Hopwood (1994); 3 - Taffler's Z-score model (1984)[27]; 4 - Zmijevski's (1984) model.

Summing up the results about the indicators included into the models characterising the probability of the financial difficulties/bankruptcies (see Table 2 and Fig. 1) we can state that their calculation total assets (10 times) and current liabilities (5 times).

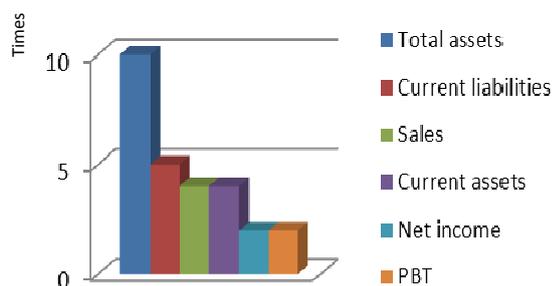


Fig. 1. Frequency of using indicators to calculate financial ratios used in binominal models

Antony Young and Yi Wang suggested 5 risk classes each of which is linked to the excuses about the going concern. Risk classes have been determined by Antony Young and Yi Wang on the basis of Altman Z- score. And this is despite the fact that auditors have the right to introduce differ-

ent excuses related to the going concern. In the Table 3 the authors summed up the results of the link between Altman Z-score and auditors' assessments of the going concern which were received by Antony Young un Yi Wang [31] on the basis of the data about 63 enterprises of construction industry branch (listed on the stock exchange) for the period from 1989 to 2007 years.

Hypotheses

This study investigates the following two hypotheses:

H₁ - there is possibility to use Altman Z-score with the sufficient precision as an instrument of the assessment of enterprise insolvency.

H₂ - there is connection between Altman Z-score and the auditors assessments of the going concern stated by Antony Young and Yi Wang.

The research was administrated in 5 certain stages as follows:

1. The collection of initial data necessary to determine Altman Z-score:

The population of this study is active Latvian enterprises, which made it possible to get balance sheet data from auditor's company during three

years in time period from 2008 till 2011. The total number of balance sheets was 126 out of which 38 were qualified as insolvent during the research period. 98 % of the analysed enterprises are related to small and medium sized enterprises.

2. Evaluation of the efficiency and reliability of the model:

To evaluate how the Altman's model is working in Latvia was calculated for each balance sheet and then the result of model compared with existing situation. All balance sheets were divided into two groups: enterprises are insolvent and non-insolvent. The result of model is shown in Table 3. The obtained Altman model accuracy assessment result is not contrary to similar results finding Genriha, Petere and Voronova [12].

Table 3. Accuracy and error rates of different Altman models in Latvia

Actual group Membership	Predicted group membership			
	Insolvency		Non-insolvency	
Insolvency	H	65	M ₁	23
Non-insolvency	M ₂	14	H	24
Classification matrix	Number correct	Per cent correct	Per cent Error	
Type I	65	74	26	88
Type II	24	63	37	38
Total	89	71	29	126

3. Determination of the number of enterprises whose Altman Z-score conform to 4 intervals Z-score (see Table 4).

4. Determination of the number of enterprises which got the auditor's judgement not contradicting /contradicting Young&Wang and ac-

cepted as risk classes of the going concern according to the data of Latvian enterprises:

The authors made a decision to change the characteristic of the auditor's judgement of the 5-th class which Young&Wang attributed to "Negative conclusion" having changed it on "Positive judgement with accents". The authors relate the given alteration to the fact that if financial statements reveal adequate information, the auditor gives a positive auditor's judgement, without objections and modified judgement which lays emphasis on the following circumstances: a) it shows that there exists a considerable uncertainty in relation to the events or circumstances which may cause considerable doubts in the ability of enterprises to continue its activities; b) singles out the attachment of financial statements in which is available the information enabling to demonstrate doubts in the abilities of the enterprise to continue its activities.

5. Determination of the conformity between the auditor's judgement about the going concern and risk classes linked to the intervals Altman Z-score:

The results of the grouping of enterprises are summed up in the Table 4. The obtained results show that 75% of the auditors' judgements about the going concern in compliance with risk classes, suggested by Young&Wang, found grounds on the example of the selection of Latvian enterprises. The largest number of incongruence's refers to the group of enterprises, which got Z-score less than 1,875 – 81%. One of the explanations could be the fact, that Altman's model demonstrated 37% error in the group of insolvent enterprises.

Table 4. The conformity of risk classes and type of auditors' judgement

Altman Z-score	Audit conclusion in compliance with risk classes		Conformity of the auditors' judgements about the going concern according to the data of Latvian enterprises			
	Risk classes and their characteristic	Assessment of the auditors' judgements put forward by Young&Wang*	4	5	6	7
1	2	3	4	5	6	7
3,075<X	1 st class. Low risk.	An unqualified opinion (including not shown focuses on condition) because "the initial risk assessment" is "low"	45	5	41	2
	2 nd class. There is grounded hope for the going concern.	An "except for" modification (inadequate disclosure) where the initial risk is mitigated by circumstances, but the risk is not disclosed in the financial reports adequately.				
2,475<X<3,075	3 rd class. The going concern is possible.	Regardless the fact that the auditor is not full convinced in the possibility of the statement about the allowance of the going concern. The auditor has 4 arguments about his doubts. These arguments include, for example: there is inadequate disclosure, shortage of information to guarantee negative acknowledgement, there is inadequate disclosure	6	1	6	0

(continued)

1	2	3	4	5	6	7
2,475<X< 3,075	3 rd class. The going concern is possible.	Regardless the fact that the auditor is not full convinced in the possibility of the statement about the allowance of the going concern. The auditor has 4 arguments about his doubts. These arguments include, for example: there is inadequate disclosure, shortage of information to guarantee negative acknowledgement, there is inadequate disclosure	6	1	6	0
1,875<X< 2,475	4 th class. The going concern is absolutely possible but uncertainty is grounded.	Refusal. The auditor is not satisfied by the fact that there is low probability that the enterprise will continue its activity in the foreseeable future but the uncertainty guarantees the refusal of expressing an opinion.	12	3	10	2
X<1,875	5 th class. Continuing as a going concern is "highly improbable".	Negative conclusion. The auditor allows low probability that the enterprise will continue its activities in the foreseeable future for the relevant period.	63	29	0	
		The judgement is positive but with accents ⁵			37	26
Total			126	38	94	32

Notation: * – developed by Young & Wang according AUS, AUP and ASA [31, 765 p.] and accepted by the authors as a basis of theoretical assessment of the auditor's judgement about the going concern which conforms to the range Altman Z-score. 1 – a number of enterprises whose Altman Z-score conform to the stated interval. 2 – a number of enterprises having an error of the 1st type according to Altman model. 3 – a number of enterprises which have got auditor's judgement not contradicting theoretical assessment. 4 – a number of enterprises which have received the auditor's judgement contradicting theoretical assessment. 5 – the authors changed the formulation of the assessment of the 5-th class of assessment of the auditor's judgements.

Conclusion

Our research considers the issue about the existence of close connection between insolvency models and the auditors' judgement about the ability of the enterprise to continue its activities. Put forward by the authors hypothesis about the possibility of using with sufficient precision Altman Z-score as an instrument of the assessment of enterprise insolvency gained grounds on the example of small and medium sized enterprises of Latvia. The precision of Altman model according to the results of the research made up 71 %.

This research adds new awareness of the fact that basing on the scale of the assessment of insolvency level according to the scale of Altman it is possible to build up a link with the risk scale of assessment by auditors about the ability of the enterprise to continue its activities suggested by Young & Wang.

References

- Abbott, L., Parker, S., Peters, G. *The effects of post-bankruptcy financing on going concern reporting*. Advances in Accounting. vol. 20. 2003. p. 1-22.
- Audit policy: Lessons from the Crisis*. Green paper. [accessed on 2013-01-09. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0561:FIN:EN:PDF>].
- Altman, E. *Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy*. Journal of Finance. No 23. 1968. p. 589-596.
- Bellotti, X., Uang, J-Y., Citron, D., Taffler, R. *The predictive Ability of Audit Report Going-Concern Uncertainty Narratives*. Working Paper. Middlesex University. 2010. [https://eprints.mdx.ac.uk/4266/1/Citron_et_al_predictive_ability.pdf].
- Basioudis, I., Geiger, M., Papanastasiou, V. *Audit Fees, Non-audit Fees, and Auditor Reporting on UK Stressed Companies*. [accessed on 2012-07-13. <http://static.aston.ac.uk/asig/Basioudis.pdf>].
- Carey, P., Simnett, R. *Audit Partner Tenure and Audit Quality*. The Accounting Review. 2006. 81(3). p. 653-676.
- Foroghi, D., Shahshahani, A. *Audit Firm Size and Going-Concern Reporting Accuracy*. Interdisciplinary Journal of Contemporary Research in Business. vol. 3. No 9. p. 1093-1098. [accessed on 2012-07-13. <http://www.journal-archives14.webs.com/1093-1098.pdf>].
- DeFond, M., Raghunandan, K., Subramanyam, K. *Do Non-Audit Service Fees Impair Auditor Independence? Evidence from Going Concern Audit Opinions*. Journal of Accounting Research. 2002. Vol. 40. No. 4. p. 1247-1274.
- DeFond, M., Francis, J., Hu, X. *The Geography of Auditor Independence and SEC Enforcement*. 2008. [accessed on 2012-07-13. http://www.accountancy.smu.edu.sg/research/seminar/pdf/3_0_defond_francis_hu_may_13_2008_final.pdf].
- Foroghi, D., Shahshahani, A. *Audit Firm Size and Going-Concern Reporting Accuracy*. Interdisciplinary Journal of Contemporary Research in Business. vol. 3. No 9. p. 1093-1098.
- Geiger, M., Rama, D. *Audit Firm Size and Going-Concern Reporting Accuracy*. Accounting Horizons, 2006. vol. 20. No 1. p. 1-17.
- Genriha, I., Petteere, G., Voronova, I. *Entrepreneurship Insolvency Risk Management: Case Latvia*. International Journal of Banking, Accounting and Finance (IJ BAAF). 2011. vol. 3. No 1. p. 31-46.

13. Hasnah, H., Bambang, H., Mahfooz, A., Ishak, I. *Factors Influencing Auditors Going Concern Opinion*. Asian Academy of Management Journal, Vol. 14. No. 1. 2009. p. 1–19.
14. Hopwood, W., McKeown, J., Mutchelr, J. *A re-examination of auditor versus model accuracy within context of going-concern decision*. Contemporary Accounting Research. vol. 10. No 2 (Springer). p. 409-431.
15. Jiang, L., Radich, R., Zhao, S. *The Successful Resolution of Auditor Going Concern Opinions: Evidence from the U.S. and Australia*. AFAANZ conference. 2010. [accessed on 2012-07-13. <http://www.afaanz.org/openconf/2010/modules/request.php?module=oc.program&action=view.php&id=225>].
16. Kaplan, S., Williams, D. *Who's afraid of the auditor? Differential market reaction to good and bad mandatory public signals*. [accessed on 2012-07-13. http://web.econ.ku.dk/fru/conference/Programme/Sunday/F6/Taffler_US%2GCM%20Paper5-0A_249.pdf].
17. Kaplan, S., Williams, D. *Do going concern audit reports protect auditors from litigation? A simultaneous equations approach*. [accessed on 2012-07-13. <http://www.uic.edu/classes/actg/actg593/Readings/AuditingAudit-Firm-Size-And-Going-Concern-2pp.pdf>].
18. Khoshtinat, M., Ghasoori, M. *Comparing the financial ratio and accrual ratio for predicting bankruptcy*. The Iranian Accounting Studies. 2005. 9. p. 43–61. (in Persian).
19. Kausar, A., Taffler, R., Tan, C. *The impact of bankruptcy code on the value of the auditor's going-concern opinion to investors*. CAAA 2006 Annual Conference. [accessed on 2012-07-13. <https://research.mbs.ac.uk/investment-risk/portals/0/docs/Kausaretal.pdf>].
20. Lawrence, J., Parker, S., Peters, G. *The Effects of Post-Bankruptcy Financing on Going Concern Reporting*. Advances in Accounting. 2003, vol. 20. p. 1-20.
21. Mironitic M., Robu J., Robu M. *Going Concern and the Effects of the Operational Cycle Management. An Empirical Study Concerning the Usage of the Financial Analysis for Obtaining Preliminary Proofs in the Task of Financial Audit*. Analele Stiintifice ale Universitatii "Alexandru Ioan Cuza" din Iasi - Stiinte Economice. 2011. vol. 2011SE. p. 41-53. [accessed on 2012-07-13. <http://anale.feaa.uaic.ro/anale/rsurse2011SEctb4mironiuc.pdf>].
22. Muceniece, Z., Lace, N. *Forecasting of Insolvency of Trade Enterprises in Latvia*. Economic Research in Business. Riga. 2010. Vol. 8. p. 141-149. (in Latvian).
23. Pourheydari, O., Koopaehaji, M. *Predicting of firms financial distress by use of linear discriminant function the model*. Journal of Financial Accounting Research. 2010. 1 (3). 33–46. (in Persian).
24. Ratzinger, N. *Auditors' Discretionary Scope of Action – German Evidence from Audit and Non-audit Fees and Going Concern Emphasis of Matter Paragraphs*. 6th EARNet Symposium. Norway. 2011. [accessed on 2012-07-13 <http://conference.rente.nhh.no/earnnet/2011papers/Paper1818.pdf>].
25. Senteney, D., Chen, Y., Gupta, A. *Predicting Impending bankruptcy from auditor qualified opinions and audit firm changes*. Journal of Applied Business Research. 2006. Vol. 22. No 1. p. 41-56.
26. Sormunen, N., Jeppesen, K., Sungren, S., Svanström, T. *Auditors' Going Concern Reporting before Bankruptcy – A Study of Bankrupt Companies in Finland, Sweden, Norway and Denmark*. 6th EARNet Symposium. Norway. 2011. [accessed on 2012-07-13. http://conference.rente.nhh.no/earnnet/2011/papers/Paper_72.pdf].
27. Taffler, R. *Empirical models for the monitoring of UK corporations*. Journal of Banking and Finance. 1984. Vol. 8. No. 2. p. 199–227.
28. Trønnes, P., Carson, E., Simnett, R. *International Consistency in Audit Reporting Behaviour: Evidence from Going Concern Modifications*. NCAAR Conference, ANU, December 2008. [accessed on 2012-07-13. http://www.fdeuw.unimaas.nl/ISAR009/01_03_Tronnes_Carson_Simnett.pdf].
29. Vanstraelen, A. *Going-Concern Opinions, Auditor Switching and the Self-fulfilling Prophecy Effect Examined in the Regulatory Context of Belgium*. Journal of accounting, auditing & finance. 2003. vol. 18. No 2. p. 231-253.
30. Ye, P., Carson, E., Simnett, R. *Threats to Auditor Independence: The Impact of Relationship and Economic Bonds, Auditing*. Journal of Practice and Theory. 2011. 30(1). p. 121-148.
31. Young, A., Wang, Y. *Multi-risk level examination of going concern modifications*. Managerial Auditing Journal. Vol. 25. Issue 8. p.756–791.
32. Zmijewski, M. *Methodological Issues Related to the Estimation of Financial Distress Prediction of Financial Distress Prediction Models*. Journal of Accounting Research. 1984. vol. 22. p. 59-82.
33. Šorins, R., Voronova, I. *Uzņēmuma maksātnespējas novērtējums*. Ekonomiskās problēmas uzņēmējdarbībā. Riga. RTU. 1998. p. 125-131. (in Latvian).